From Hide to Thread: Tahmuras, Textile Technology, and the Birth of Abstract Visual Language on the Iranian Plateau.

Mythological Memory, Archaeological Evidence, and the Emergence of Weaving as a Foundation of Iranian Visual Culture.

Written by: Maryam Gomizi (Mary G)

Series: Persian Art Chronicle

Article ID: PAC-2026-0014

Version: 1.0

Published: 12 June, 2026

Estimated Reading Time: 30 minutes

Word Count: Approximately 4,200 words

Number of Figures: 4

Number of Tables: 3

Number of References: 14

Mission Statement:

Persian Art Chronicle is an independent long-form research project by Maryam Gomizi- (Mary G) dedicated to documenting, analyzing, and interpreting the history of Iranian art from mythical antiquity to the contemporary era through an interdisciplinary artistic and scholarly perspective.

Citation Information:

Gomizi, Maryam. (2026). From Hide to Thread: Tahmuras, Textile Technology, and the Birth of Abstract Visual Language on the Iranian Plateau. *Persian Art Chronicle*, PAC-2026-0014.

Abstract:

Textile production was among the most transformative technological innovations of the ancient world, yet its cognitive and semiotic impact on early visual design systems remains understudied. This paper examines the structural relationship between early textile manufacturing and the development of abstract geometric design on the Iranian Plateau. Moving beyond purely economic or material assessments of prehistoric craft, the study integrates archaeological evidence from sites such as Tepe Sialk and Cheshmeh-Ali with cultural memory theory and the epic narrative of Tahmuras from Ferdowsi's *Shahnameh*. Using the Structural Sequence Grid (SSG) as a comparative heuristic model, I analyze how the operational mechanics (*chaînes opératoires*) of spinning and weaving—specifically the binary logic of the warp-and-weft grid—internalized spatial rules of symmetry, modularity, and repetition among prehistoric artisans. The study demonstrates that these mechanical habits directly informed the geometric visual systems found on Chalcolithic painted ceramics and established a lasting spatial logic in Iranian art. Incorporating a practice-led artistic perspective, this paper shows that the ancient loom functioned not merely as a utility tool, but as an early cognitive framework that shaped abstract visual thinking across the Iranian Plateau.

Keywords: Iranian Textile History; Tahmuras; Tepe Sialk; Material Culture; Visual Semiotics; Cultural Memory.

1- Introduction:

Among the technological breakthroughs shaping early human history, textile production stands apart. Most tools directly solved immediate, practical survival problems. Spinning and weaving did something more: they generated structured knowledge systems that expanded into symbolism, social organization, aesthetics, and visual communication. On the Iranian Plateau—a vital early geographic zone for animal domestication and fiber processing—these techniques deeply affected the rise of complex material culture and regional art traditions (Moorey, 1994).

Persian epic literature preserves this technological transition as a foundational cultural memory. In Ferdowsi's *Shahnameh*, the reign of Tahmuras marks a shift toward civilizational

knowledge. The narrative records how Tahmuras acquired practical crafts, including spinning and weaving, after subduing the *divs* (demons) (Ferdowsi, 2006). While mythic in form, the story encodes early cultural recollections of technical transmission, specialized skills, and socio-economic shifts.

This article examines the structural relationship between these epic memories and the archaeological record of early Iranian textile making. Rather than attempting to validate myth through archaeology or force physical evidence into literary frames, this study explores how both domains offer complementary perspectives. Mythological accounts record how societies symbolically conceptualized technological change; archaeological data systematically documents operational sequences (*chaînes opératoires*) and material developments (Assmann, 2011).

The core argument of this study focuses on the cognitive influence of weaving on ancient visual design. Textile production introduced principles of modularity, symmetry, repetition, and grid-based order long before these concepts became formal markers of Iranian art. The mechanical logic of the loom served as an early cognitive framework for abstract design thinking on the prehistoric plateau. By combining literary analysis, cognitive archaeology, cultural memory theory, and art history, this paper traces how early weaving influenced the development of abstract visual systems in ancient Iran.

2- Historical and Cultural Context:

The development of textile technology on the Iranian Plateau was closely tied to environmental adaptation, animal husbandry, and craft specialization. Prehistoric communities in the Zagros highlands domesticated sheep and goats during the early Neolithic period, securing a reliable supply of wool and hair suitable for processing (Hole, 1987; Potts, 1999).

Transitioning to settled village life stimulated new ways of making objects. Turning raw animal fibers into uniform thread required systematic operational steps. Processing hides required basic physical transformation. By contrast, thread production demanded sequential labor: harvesting fibers, cleaning, combing, spinning, loom preparation, weaving, and finishing. These multi-stage procedures encouraged technical specialization and supported early divisions of labor across prehistoric settlements. The *Shahnameh* captures this socio-technical shift through symbolic narrative. The reign of Tahmuras represents an evolutionary step defined by acquiring

specialized crafts. Subduing the *divs* forms the central episode of this civilizational sequence (Ferdowsi, 2006).

Academic analysis requires separating epic representations from historical data. The narrative does not record historical facts directly. Instead, it provided subsequent generations with a narrative framework to explain how complex, specialized technologies entered society. Several scholars suggest the *divs* in cultural memory reflect interactions with distinct, skilled peripheral populations living outside early central authorities on the plateau (Christensen, 1993). From this perspective, the epic preserves memories of knowledge transfer and cultural integration. Table 1 outlines the analytical distinctions applied to the *divs* across different frameworks.

Table 1. Comparative Interpretation of the Divs in Mythological and Scholarly Frameworks.

Perspective	**Characterization of the Divs**	**Source Type**	**Cultural Meaning**
Epic Narrative	Powerful non-human beings possessing specialized knowledge	Literary Tradition	Symbolic custodians of hidden knowledge
Mythological Interpretation	Agents of liminality and transformation	Cultural Memory	Mediators between nature and civilization
Scholarly Interpretation	Possible representation of technologically skilled communities	Historiography	Cultural memory of knowledge transfer
Material Culture Perspective	Symbolic embodiment of technical expertise	Archaeological Interpretation	Preservation of technological origins

As Table 1 shows, interpreting the *divs* depends entirely on the analytical framework. Epic literature frames them as supernatural adversaries; interdisciplinary research views them as symbolic markers of external technical knowledge systems. This distinction provides a framework for analyzing the plateau's material culture.

3- Literature Review:

Studying early Iranian textile production spans archaeology, anthropology, art history, and material culture studies. Roman Ghirshman early on highlighted the sophistication of prehistoric Iranian craft specialization, noting its importance in regional Chalcolithic societies (Ghirshman, 1954). Organic textiles rarely survive on the plateau due to soil conditions and climate. However, durable evidence—spindle whorls, loom weights, and fiber-processing tools—provides empirical data on production systems and labor organization. Sadegh Malek Shahmirzadi's excavations at Tepe Sialk expanded understanding of central Iranian prehistoric technologies. Uncovering stratified spindle whorls established that organized spinning was active by the fifth and fourth millennia BCE (Malek Shahmirzadi, 2006). Yousef Majidzadeh emphasized that craft specialization linked directly to growing social complexity in proto-urban Iran, identifying textiles as economic drivers for regional exchange and specialized labor (Majidzadeh, 2008).

From an art historical view, scholars frequently observe geometric structures, bilateral symmetry, and modular repetition in Iranian visual traditions (Ghirshman, 1954; Grabar, 1992). Few studies, however, explore the cognitive link between weaving logic and these geometric visual systems. Research often focuses on architectural brickwork or ceramics, bypassing the underlying influence of loom mechanics. Theoretical approaches in material culture studies help bridge this gap. Daniel Miller (2005) demonstrates that material practices actively shape human spatial perception rather than merely reflecting social values. Textile making functions as an organized technological system influencing visual habits. Jan Assmann's cultural memory theory further explains how mythic narratives preserve technological transformations (Assmann, 2011). Stories of Tahmuras and the *divs* served as cultural mechanisms to retain memories of technological shifts long after historical origins faded. Linking myth, archaeology, and visual abstraction requires synthesizing these theoretical frameworks.

4- Theoretical Framework and Methodology:

Analyzing the cognitive dimensions of prehistoric weaving requires an interdisciplinary method merging Cognitive Archaeology with Geometric Semiotics. Artifacts, tools, and painted motifs are not viewed here simply as economic remnants or passive decorations. Instead, they are examined as externalized cognitive maps reflecting early design thinking. Prehistoric technology operated as

an interface connecting manual labor, material limits, and spatial organization. This study uses the Structural Sequence Grid (SSG) as its primary heuristic tool. The SSG breaks down and compares operational steps (*chaînes opératoires*) across two technical domains: textile production and ceramic painting. The process follows three steps:

1. **Operational Phase Mapping:** Documenting the mechanical gestures of a technique (e.g., binary thread interlacing versus continuous ceramic rotation).
2. **Constraint Translation:** Analyzing how physical limits (such as the loom's orthogonal grid) forced artisans to conceptualize spatial order, symmetry, and repetition.
3. **Cognitive Transfer Modeling:** Tracing how these spatial conceptualizations transferred onto unconstrained surfaces, such as hand-painting motifs on raw clay.

Applying the SSG framework highlights structural correlations between early loom mechanics and abstract visual systems. This approach shifts focus from descriptive stylistic comparisons to analyzing structural and cognitive design systems.

5- Main Analysis: Mythological Memory and the Narrative of Tahmuras:

The reign of Tahmuras occupies a distinct, transitional position in the civilizational timeline of the *Shahnameh*. Earlier epic rulers establish basic political stability and agricultural order. Tahmuras, by contrast, is systematically linked to acquiring, institutionalizing, and passing on specialized technical knowledge. His central achievement in the epic is subduing the *divs*. Rather than destroying these chaotic forces, he forces them to reveal practical skills, building techniques, and technological processes. Among these guarded crafts are spinning, weaving, garment making, and writing. From a cognitive standpoint, this detail is revealing: technological growth is not portrayed as a spontaneous internal invention, but as a system of knowledge acquired through interaction with peripheral groups or external forces.

Cultural memory studies help explain why societies locate technological origins outside ordinary historical boundaries. Foundation myths frequently present innovation as a gift, theft, or deliberate transmission from external agents—a pattern visible in Greek accounts of Prometheus or Mesopotamian traditions of divine instruction. The Iranian narrative carries a subtle distinction. The *divs* are neither purely divine teachers nor mindless enemies. They occupy an ambiguous position as custodians of specialized technical skills. This ambiguity hints at an ancient cultural

link between specialized technological ability and social otherness on the plateau. Arthur Christensen suggested these epic accounts preserved memories of interactions between early centralized political centers and skilled peripheral populations. While this hypothesis cannot be empirically proven, it offers a useful framework for understanding why technical crafts like weaving were repeatedly linked to figures outside standard social orders.

This analysis does not imply ancient communities learned weaving directly from supernatural beings. Rather, the myth functions as a cultural codification. It reflects a recognition that specialized knowledge often originated from unfamiliar or peripheral technological domains. The significance of Tahmuras rests on turning this localized, guarded skill into a shared civilizational resource. The ruler acts as a mediator through whom technical crafts enter wider society. Civilization advances through organizing, systematizing, and passing down technical expertise. Persian manuscript traditions later reinforced these core themes. As shown in **Figure 1**, visual depictions of Tahmuras subduing the *divs* emphasize mastery, order over chaos, and technological change. These artistic interpretations solidified the long-standing association between governance, technical progress, and transforming raw materials into structured forms.

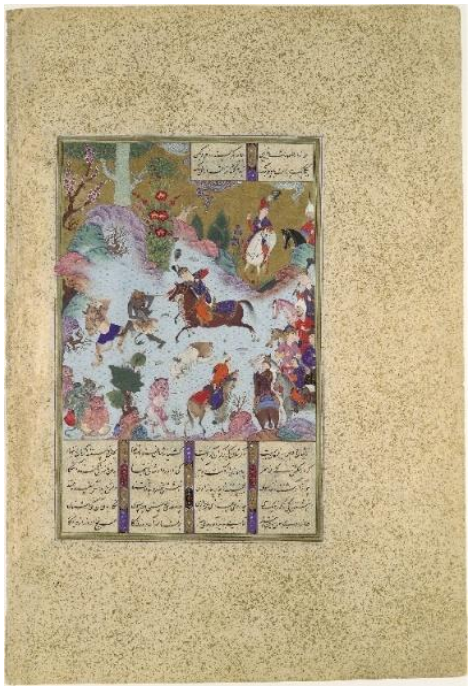

Figure 1. Tahmuras Subdues the *Divs*, folio 23v from the *Shahnameh* (Book of Kings) of Shah Tahmasp. Attributed to Sultan Muhammad, Tabriz, Safavid period (c. 1525–30). The Metropolitan Museum of Art, New York.

The narrative of Tahmuras reflects a key dynamic in early human history: how specialized technical knowledge moved from restricted peripheral groups into broader, standardized systems of production.

6- Archaeological Evidence of Early Textile Production:

While mythology projects technological shifts into primeval time, archaeology provides physical timelines for early textile production on the Iranian Plateau. The region is central to discussions of early textiles because animal domestication, settled village life, and craft specialization developed here simultaneously (Hole, 1987; Potts, 1999).

Producing cloth required an interconnected sequence of physical operations. Herds had to be managed, sheared, and maintained. Raw fibers needed cleaning, sorting, combing, and preparation. Spinning converted loose fibers into uniform thread, while weaving interlocked those threads into stable cloth on a loom. Each step required technical knowledge, manual skill, and repeated practice. Organic fibers rarely survive in plateau soil chemistry. However, indirect artifacts—specifically spindle whorls—confirm how widespread textile production became. Made from durable materials like fired clay, terracotta, or stone, spindle whorls survive far more reliably than fabrics.

Figure 2. Excavated clay and stone spindle whorls from the Iranian Plateau, showing standardized central perforations for spinning yarn. National Museum of Iran.

The physical, technological evolution of these spindle whorls reveals a clear trajectory toward standardization. As observed in the archaeological assemblages illustrated in **Figure 2**, the systematic modification of whorl weight, central perforation diameter, and structural balance indicates a highly sophisticated understanding of rotational dynamics and kinetic energy. This control was necessary to produce uniform, high-quality threads capable of enduring the mechanical tension of warp-and-weft loom matrices.

The emergence of organized textile production marks more than the simple invention of a useful craft. It reflects the historical appearance of technical knowledge, operational planning, and mechanical control supporting expanding social complexity. The spatial distribution and physical changes of these tools document domestic and workshop production across prehistoric settlements (Malek Shahmirzadi, 2006; Majidzadeh, 2008). **Table 2** summarizes key artifactual evidence from major plateau sites.

Table 2. Quantitative Spatial Distribution of Weaving Tools.

Site	**Approximate Period**	**Evidence**	**Significance**
Tepe Sialk	5th–4th Millennium BCE	Numerous spindle whorls	Organized spinning production
Tepe Hissar	4th–3rd Millennium BCE	Fiber-processing tools	Specialized textile activities
Cheshmeh-Ali	5th Millennium BCE	Domestic production contexts	Household craft production
Central Plateau Settlements	Neolithic–Chalcolithic	Animal domestication evidence	Availability of textile fibers

As Table 2 demonstrates, textile-related technologies appear across multiple prehistoric settlements and distinct chronological periods. This empirical distribution indicates that spinning and weaving formed part of broader, inter-regional socio-technical developments rather than isolated local innovations.

7- Geometric Semiotics: From Loom Logic to Ceramic Motifs:

A crucial aspect of early textile making is its structural link to abstract visual systems. Field archaeology identifies physical tools; understanding the visual impact of textiles requires examining their semiotic structure. Weaving differs from most prehistoric crafts because it depends entirely on the spatial grid of intersecting elements. Threads are never arranged at random. They follow strict rules of alternating sequence, bilateral symmetry, rhythm, and modular placement. These structural constraints double as visual rules.

The loom functioned as a cognitive tool for generating ordered patterns. Every woven fabric reflects a logic of grid construction. Orthogonal intersections yield predictable matrices, alternating thread orders create visual rhythm, and balanced tension ensures symmetry. These principles became lasting features of art across the Iranian Plateau. Material practices shape how humans organize spatial perception (Miller, 2005). The repetitive work of weaving trained artisans to perceive proportion, interval, and geometric sequence. These operational habits extended naturally into other media. This cognitive transfer is clearest on Chalcolithic painted ceramics. Geometric motifs dominate decorative schemes across plateau sites. Triangles, zigzags, chevrons, lozenges, lattices, and repeating linear bands appear with remarkable consistency (Ghirshman, 1954). **Table 3** maps how loom mechanics translate into visual design elements.

Table 3: Semiotic Comparison of Textile Matrices and Ceramic Motifs:

Textile Principle	**Structural Function**	**Visual Expression**	**Later Artistic Manifestation**
Warp-Weft Grid	Organizes woven surface	Geometric ordering	Ceramic pattern systems
Repetition	Structural stability	Rhythmic motifs	Decorative borders
Symmetry	Visual balance	Bilateral composition	Architectural ornament
Modular Units	Pattern construction	Repeating motifs	Textile and ceramic design
Interlacing	Material integration	Linear abstraction	Graphic ornamentation

Ceramic painters did not work in isolation from physical crafts. Hands and minds accustomed to the intervals of weaving applied that grid logic when painting raw clay.

Figure 3. Prehistoric red ceramic bowl with parallel rows of geometric diamond/chevron motifs, Cheshmeh-Ali culture, dating to the 5th millennium BCE.

As illustrated in **Figure 3**, the rhythmic, parallel rows of chevrons and diamonds painted on ceramic surfaces directly mirror the structural logic of woven grids. Furthermore, rare organic survivals confirm that these intricate woven patterns were actively produced during this era.

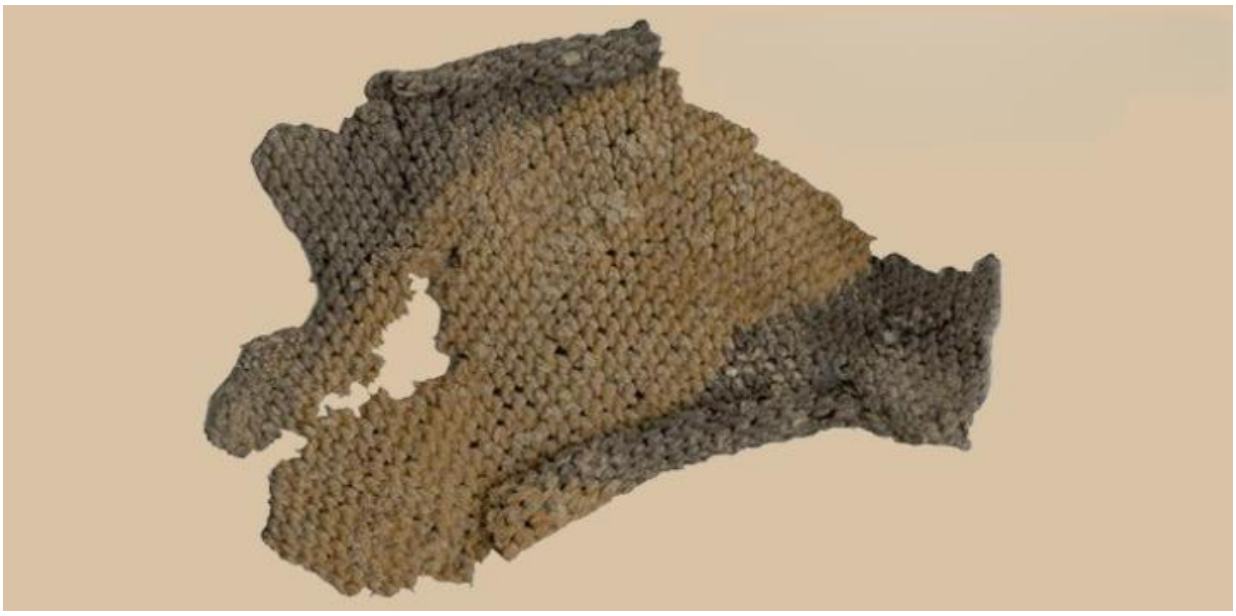

Figure 4. Fragment of a wool and hair fabric discovered at Shahr-e Sokhteh (Zabol), Sistan and Baluchistan, dating to the 3rd millennium BCE (After Sajjadi, 2015).

Physical artifacts like the Shahr-e Sokhteh woven fragment shown in **Figure 4** provide direct evidence of complex warp-and-weft structures on the plateau, validating the structural foundation from which these visual design traditions arose.

8- The Socio-Cultural Dimensions of Weaving Technology:

The impact of early textile production extended beyond workshop economics and practical utility. Once established, textile-based visual organization and production habits actively influenced social relationships, community identity, and cultural memory across the Iranian Plateau. Archaeological data indicates textile making operated on multiple social levels. Domestic household production coexisted alongside specialized inter-regional workshop networks. This dual structure allowed textiles to serve as everyday necessities while also functioning as high-value goods for long-distance trade and elite exchange (Barber, 1991). Because yielding strong yarn and complex cloth demanded disciplined, skilled labor, textile expertise became a form of social capital. Knowledge regarding fiber traits, spindle dynamics, loom setup, and pattern geometry formed a specialized skill set passed down across generations.

The mythic association of weaving with guarded knowledge in the *Shahnameh* is sociological in nature. In the Tahmuras narrative, technical skill is framed not as common knowledge, but as a prized capability held by peripheral *divs*. Through the lens of cultural memory, this story reflects an early societal recognition that technological skill carries inherent social value and administrative power. Similar patterns appear across ancient cultures, where specialized crafts were surrounded by narratives emphasizing secrecy, elite skill, or exotic origins. Jan Assmann's cultural memory theory emphasizes that early societies preserved specific material practices and oral stories because they embodied core ideas of collective identity (Assmann, 2011). Textile making held such a position on the plateau. Transmitting weaving knowledge across generations turned mechanical routines into lasting cultural practices. Given the plateau's environmental diversity, communities adapted local fibers, processing methods, and visual motifs to their specific regions. Over time, these local technical habits contributed directly to distinct regional and tribal visual identities.

Transforming raw, unshaped fibers into structured geometric systems remains a major achievement of ancient material culture. Loose wool and plant fibers carry no intrinsic visual order. Through spinning and weaving, prehistoric artisans organized chaotic raw materials into clear, geometric designs. This process represents an early form of design thinking: physical labor organizing natural elements according to abstract mental plans. This capability prefigures later historical developments in modular brick architecture, urban layouts, and decorative arts. Portable textiles moved easily across regional boundaries, carrying shared visual patterns, geometric rules, and technical ideas across distant communities. What began as physical constraints of the loom evolved into permanent visual preferences that helped define Iranian visual traditions.

9. Discussion & Critical Evaluation

The interdisciplinary evidence examined in this study shows that textile production held a foundational place in the technological and cognitive development of ancient Iran. Using the Structural Sequence Grid (SSG) to analyze mythology, physical tools, and visual systems leads to several key conclusions:

First, epic narratives and archaeological finds do not contradict each other; they address different aspects of the same history. The story of Tahmuras and the *divs* in the *Shahnameh* does not offer direct historical documentation of invention. Instead, it acts as a preserved repository of

cultural memory, capturing a societal awareness of the value and civilizational impact of specialized technical knowledge.

Second, the archaeological record confirms the historical reality of organized textile industries across the Neolithic, Chalcolithic, and Bronze Age plateau. The distribution and physical evolution of spindle whorls and fiber tools demonstrate standardized craft practices at sites like Tepe Sialk, Tepe Hissar, and Cheshmeh-Ali.

Third, a clear structural link exists between early weaving and abstract visual design. The physical constraints of the loom—specifically the rigid grid of warp and weft—forced artisans to work repeatedly with symmetry, modular units, and rhythmic repetition. These internalized grid mechanics were transferred onto other media, directly driving the geometric organization of Chalcolithic painted pottery.

Critical Evaluation & Methodological Limitations:

While this interdisciplinary framework offers insights into ancient visual design, several methodological limitations must be acknowledged:

- **Preservation Limits:** Organic textiles rarely survive in the plateau's soil and climate. Researchers must rely on indirect artifacts like spindle whorls, loom weights, and fiber tools. This evidentiary gap requires caution when drawing conclusions about specific lost woven designs.
- **Literary Context:** Epic narratives in the *Shahnameh* were codified long after the prehistoric developments discussed here. They cannot be used as literal historical or chronological records. Their value lies in studying cultural memory and symbolic representation.
- **Multiple Design Origins:** While structural parallels between looms and ceramic patterns are clear, proving single direct causality is difficult. Basic geometric motifs like zigzags or chevrons can arise independently through different technical or visual pathways.

This study does not claim all ancient Iranian geometric art originated solely from weaving. Rather, it argues that textile making provided a pervasive, daily context through which abstract visual principles and grid-based design thinking became widely established across plateau communities.

10. Conclusion:

The transition from animal hides to organized textile production was a major technical and cultural shift on the Iranian Plateau. While traditional craft histories view early weaving primarily as a practical or economic skill, this study shows its impact extended far deeper into cognitive and visual development. The epic narrative of Tahmuras preserves a memory of how ancient traditions recognized technical skill as a force driving civilizational progress. Simultaneously, archaeological finds from sites like Tepe Sialk and Cheshmeh-Ali confirm the physical presence of standardized spinning and weaving industries during the Neolithic and Chalcolithic periods.

Most importantly, weaving acted as a key generator of abstract visual thinking. The mechanical logic of intersecting warp and weft threads introduced symmetry, modularity, and geometric order into material practice. The loom functioned as a conceptual system through which abstract mental plans first took physical form. Ultimately, the emergence of weaving on the Iranian Plateau marked more than the manufacture of cloth. It created one of humanity's early systems for organizing physical experience into lasting visual meaning.

11. Researcher and Artist Reflection: A Practice-Led Perspective on Loom Matrix:

To understand the cognitive link between textiles and abstract visual systems, I incorporate practice-led artistic research into this study. Beyond analyzing excavated tools and literary texts, my direct experience working with physical looms offers an experiential perspective on ancient design thinking. Engaging with the physical limits of weaving reveals spatial dimensions that remain hidden in purely theoretical study. Working at a loom is a continuous negotiation with structural discipline. The process takes place inside a rigid spatial grid. Warp threads under tension form a fixed vertical framework. Every action—lifting heddle rods, passing the weft shuttle, and pressing threads with the comb—is governed by this initial setup.

From an artistic standpoint, abstract patterns are not arbitrary shapes applied to a blank surface. They emerge directly from the mechanical gestures and counting logic of the process. Creating a chevron or diamond motif requires precise thread counting, maintaining numerical intervals, and continuous spatial awareness. The pattern and the physical structure are identical. This practical insight clarifies how structured visual rules transferred onto other ancient media,

such as ceramic painting. An artisan whose hands and spatial habits were trained on the loom brought those same structural patterns to painting clay. Drawing parallel chevrons or cross-hatchings on a pot was a direct translation of the loom's binary rhythm. Practice-led work demonstrates that the loom acts as a physical tool for training visual cognition—teaching artisans how to structure space, construct symmetry, and organize geometric abstraction. The history of early Iranian visual culture is thus not merely a sequence of historical styles, but a history of physical practice and tactile intelligence.

References:

Assmann, J. (2011). *Cultural Memory and Early Civilization: Writing, Remembrance, and Political Imagination*. Cambridge University Press.

Barber, E. J. W. (1991). *Prehistoric Textiles: The Development of Cloth in the Neolithic and Bronze Ages with Special Reference to the Aegean*. Princeton University Press.

Christensen, A. (1993). *Les types du premier homme et du premier roi dans l'histoire légendaire des Iraniens* (M. J. Amouzegar & A. Tafazzoli, Trans.). Chshmeh Publications.

Eliade, M. (1959). *Cosmos and History: The Myth of the Eternal Return*. Harper & Brothers.

Ferdowsi, A. (2006). *Shahnameh: The Persian Book of Kings* (D. Davis, Trans.). Viking Penguin.

Ghirshman, R. (1954). *Iran: From the Earliest Times to the Islamic Conquest*. Penguin Books.

Grabar, O. (1992). *The Mediation of Ornament*. Princeton University Press.

Hole, F. (1987). *The Archaeology of Western Iran: Settlement and Society from Prehistory to the Islamic Conquest*. Smithsonian Institution Press.

Majidzadeh, Y. (2008). *Excavations at Jiroft: The Emergence of Early Bronze Age Civilization in Southeastern Iran*. Iranian Center for Archaeological Research.

Malek Shahmirzadi, S. (2006). *The Silversmiths of Sialk: The Fifth Archaeological Season of the Sialk Reconsideration Project*. Iranian Center for Archaeological Research.

Miller, D. (Ed.). (2005). *Materiality*. Duke University Press.

Moorey, P. R. S. (1994). *Ancient Mesopotamian Materials and Industries: The Archaeological Evidence*. Clarendon Press.

Potts, D. T. (1999). *The Archaeology of Elam: Formation and Transformation of an Ancient Iranian State*. Cambridge University Press.

Sajjadi, M. S. (2015). *Shahr-i Sokhta*. Cultural Heritage, Handicrafts & Tourism Organization of Sistan & Baluchistan.